

Aviation News

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NOV. 11, 1946



New Navy Robot Bomb: *One of a series of "tomorrow's-weapons-today" at which the public was given a quick peek at the Naval Air Material Center's "open house" is this turbo-jet powered KDN-1 guided-missile which is carried under the wing of a PB4-Y Privateer and launched from the air. It has a "seeker" head and a speed of better than 500 mph. Story on page 9. (Navy photo)*

Big Cities Fight For Lion's Share of Airport Funds

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Culver Model V Offers Many Features at List Price

Simpli-fly controls easiest way to use flaps; "hollow-log" production at Wichita.....Page 13

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Easy money period over as financial houses grow wary; mail pay key revenue factor.....Page 20

Joint Group to Study New Air Safety Requirements

CAA, CAB, and industry will meet in capital on proposed 150-hr. accelerated tests.....Page 21

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TWA-ALPA Settlement Lags as Pilots Refuse to Sign

Union representatives refer new arbitration draft to Chicago; object to pay provision..Page 27



Research takes the long range view

Today's achievements in the air was yesterday's research problem. Now, when man can fly in comfort miles above the earth, science is reaching up 100 miles and more to explore the possibility of controlled flight through interstellar space. Curtiss-Wright engineers have played a major part in the development of ram-jet missiles and controlling studies in fighter research will be verified by supersonic wind tunnel tests on small dynamic models.

The Curtiss-Wright record in design and manufacture of aircraft provides a lasting background for the beyond-the-horizon pioneering which guides our thinking for tomorrow.

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CURTISS-WRIGHT
Airplane Division
 COLUMBUS, OHIO

Developing Flight to
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THE AVIATION NEWS

Washington Observer



ELECTION REACTION—Initial reaction of aviation officials to the Republican sweep of Congress was primarily concerned with three things: Federal expenditures for aviation, labor, and interpretation of the books of government regulations affecting all industry. Washington feeling is that, despite campaign promises to cut expenditures, Republicans will not reduce national defense expenditures although some CAA cuts may come. Some sort of labor legislation designed to improve labor-management relations—possibly a reformed Cio bill—seems in the cards. There is strong opinion that present statutes in all fields, and those to be enacted, will be more soundly administered, with the emphasis on achieving Congress' intent of the law, rather than accomplishing a great many unimportant ends merely deemed desirable by the particular administration of the moment.

INTEGRATION REVIVAL—Republican control of the House will place Republicans Charles A. Woburn, N. H., in the chairmanship of the Interstate and Foreign Commerce Committee, a post held by California Rep. Charles L. McNary (D). Woburn is best remembered as aviation circles for the fight he led against the omnibus Lea bill of 1946, unanimously supported by the airlines. Woburn charged the bill was the net result of ATA lobbying, and presented a substitute measure, opening the doors for integrated ownership of various modes of transportation—the proposition which is vigorously advocated by railroad interests, including the railroad-backed Transportation Association of America.

KEY TO TRANSPORT LAW—The two congressmen who joined Woburn in spearheading the 1946 drive to kill the Lea bill and open the way for mixed ownership of airlines, Republicans Phil Holmes, Mass., and Charles Heflick, Ind., are about to be the two top ranking majority members on Interstate and Foreign Commerce in the next Congress. Their record in favor of integrated ownership gains significance in light of the committee's plan to put through major overall transportation legislation in the new Congress. Heflick was an aggressive advocate of an independent Civil Aeronautics Authority in the last Congress.

NONSCHED FRIEND—About to be the fourth ranking majority member of Interstate in the new Congress is Republican Carl Henshaw, Calif., who was an active member of the 76th Congress' House Committee to Investigate Air Accidents, headed by the

late Rep. Jack Nichols of Oklahoma. In 1946 Henshaw crossed party lines to support the omnibus Lea bill and oppose the Wolcott-Holmes-Heflick substitute bill. Henshaw has been a proponent of federal jurisdiction over air transport. Lately, he has taken sides with nonscheduled operators in their fight for maximum freedom from regulation.

UNIFICATION BRIGHTENED—The GOP sweep into power in both houses makes Military Affairs committees who lacked a unified command with equal votes for the air, sea and ground forces, leading candidates for chairmanships of the second session continues. Top claimant in the Senate is GOP Sen. Styles Bridges, N. H., an Air Force enthusiast. Republican Walter Andrews, N. Y., now top ranking member of Military Affairs Committee, is third to head the House Armed Services Committee.

BREWSTER UP—With Republican control of the Senate, Republican Owen Brewster, Maine, becomes the leading candidate for chairmanship of the Special War Investigating Committee and a leading candidate for the chairmanship of the standing Interstate and Foreign Commerce Committee—to be formed through a merger of the present Commerce and Interstate Commerce Committees under the Congressional Reorganization Act. Top claimant for the chairmanship of Senate Interstate and Foreign Commerce, which will handle all transportation legislation in the new Congress, is Republican Clyde Reed, Kans., now a top ranking member of Senate Interstate.

SPOTLIGHT ON CAB—Already announced by Brewster as one of his "pet projects" is an investigation of CAB to determine in what manner—if at all—politics has influenced Board decisions. As chairman of the Senate's Special War Investigating Committee, Brewster would be in a position to move ahead with the probe—which he wanted authorization in the last Congress. Majority members of the special investigating committee in the new Senate: Republicans Joe Ball, Miss., Homer Ferguson, Mich., William Knowlton, Calif.

AIR CHAMPION'S DEPARTURE—Biggest disappointment in aviation circles over election results was occasioned by defeat in West Virginia of Rep. Jennings Randolph who during his 14 years' service in the House was the most vocal and effective aviation champion in Congress.

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Aircraft Corporation**
Fort Worth, Texas

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Dr. **JOSEPH A. BELANDIER**, President of the American Society of Human Genetics, is a professor of genetics and director of the Center for Human Genetics at the University of California, San Diego. He is also a member of the National Academy of Sciences and the National Council on Human Genome Research. Dr. Belandier is a past president of the American Society of Human Genetics and a past president of the National Society of Human Genetics. He is also a past president of the American Society of Human Genetics and a past president of the National Society of Human Genetics.

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Figure E. Wilson resigned as co-chairman of the board of United Aircraft Corp. to devote the majority of his time to working for establishment of a national air policy. He will continue as a director of United.

War Assets Administration will "practically out of business in minimal aircraft for the time being" when it awards bids for disposal of 2,365 combat aircraft in inventory, according to Administrator Robert M. Littlejohn. WAA sold 1,600 surplus combat planes for France in September.

Military Science committee to the National Atomic Energy Commission will be headed jointly by Maj. Gen. Lewis H. Brereton, representing the Army and Rear Adm. Thorvald A. Solberg.

Navy blimp KM-1 set a new endurance record of 179.3 hours in the air without refueling. The previous record for lighter-than-air craft was 120 hours set by the previous in 1936.

Col. Myron R. Wood, chief of AF supply, died of a heart attack at his home in Washington. He was recently a brigadier general commanding the 8th Air Force Service Squadron in Korea.

ATC experimental C-54 made a conventional flight with all passengers facing the rear in the final test of new passenger safety equipment designed to reduce injuries resulting from crashes.

Douglas Aircraft Co. purchased a major portion of its government-owned Lear Bench (Calif.) unit from WAA for a price "in excess of \$7,500,000." The plant produced B-37s, A-38s and C-74s during the war and is expected to house Douglas prefabricated housing division, if the company concludes a deal with the National Housing Agency.

Boeing Aircraft Corp., in voluntary liquidation, reported a net profit of \$189,100 on realization of assets after all charges during the nine months ending Sept. 1, 1948.

Sealed bids for purchase of 161 unguaged non-flyable surplus Vought-Cessna aircraft will be received by WAA before noon December 5.

Swissair, Swiss Airline is increasing its capital from 1,000,000 to 20,000,000 francs by issue of 18,000 shares of stock with par value of 100 francs.

All of 24 persons aboard a chartered French plane en route from Paris to Casablanca were killed in a crash near Larnage, France. Severe icing conditions and fog were blamed by French authorities for the crash.

Brazil has served notice that national air companies desiring to carry air traffic in that country must have a minimum capital of \$1,000,000 to obtain a charter.

KLM's Correlations will not be grounded because of the training at Santa Maria in the Aconcagua 8, according to E. Vermeulen, company vice president, who said there was no reason to suspect a structural defect.

Chinese Executive Yuan has given final approval to formation and operation of Chennault Air Transport to haul relief supplies by air in China. The Yuan approved a contract signed with Maj. Gen. C. L. Chennault, former 14th Air Force commander, and William Willauer, former FIA transportation adviser in China by which USRIA will provide 12 transport planes and equipment and Chennault and Willauer will

Russia and China have concluded an agreement for a weekly air service to link Russian Turkestan and China. A joint Sino-Russian company will be organized to oper-

BOAC has accepted the first of 12 Halton transports (converted Halifax bombers) for service on the Cairo-Khartoum run.

Nov. 11-14—Medical Aircraft Meet, Washington, D.C.
Nov. 12-13—International Aviation Exhibition, London, England
China Association, Cleveland
Nov. 21—Personal Aircraft Council Meeting, Cleveland
Nov. 22-23—Board of Governors Meeting, Royal Station, Cleveland
Nov.—International Automobile Exhibition, Cleveland
Dec. 1-10—Medical Air Transport Page Meeting, Niagara, Niagara Falls, New York
Dec. 1-10—International Aviation Exhibition, New York, N.Y.
Dec. 11—Emergency Air Meet, Washington, D.C.
Dec. 11-12—Auto Meet, Royal Station, Cleveland
Dec. 13-14—Medical Aircraft Council Meeting, Cleveland
Dec. 15—Emergency Air Meet, Washington, D.C.
Dec. 16-17—Auto Meet, Royal Station, Cleveland
Dec. 18-19—Medical Aircraft Council Meeting, Cleveland
Dec. 20-21—Emergency Air Meet, Washington, D.C.



• Bell's X-3, the supersonic experimental aircraft, is flying again at Muro Lake. Gliding flights with ever-increasing loads are being made from a B-2 carrier ship. Full powered flight is scheduled for mid-December but technical observers believe more time will be required to complete adjustments necessitated by every increase in the plane's weight.

with a total of 2.2 million lbs in 1995. Slack has now down 7,100,000 tons since beginning operations last March. Slack's October load factor was 74%, with 8.9 hours daily utilization on its fleet of 10 C-602's.

▶ **Mason Navigation Co.** has formed the **Mason Aviation Maintenance Co.** to handle overhauls and conversions for its air transport divisions with headquarters at Oakland Municipal airport. Another overhaul base at John Rodey Field, Honolulu, is also under consideration.

Simon's general sales manager, Larry Cooper, is watching west coast reports of a price reduction in the Simon Voyager 130 before the end of the year. "I point out that increasing material and labor costs have made such action impossible."

► Globe Aircraft Corp. of Fort Worth, maker of the Swift, is not for sale in whole or part, according to company officials.

► Failure of production to keep pace with new orders has boosted Apur Armutani Co.'s exhaust manifold backlog to \$2,750,000. New orders amounting to \$180,000 were received last month from Douglas, Boeing, Consolidated Aircraft.

► Civic and business groups of Minneapolis and St. Paul are considering plans to establish an Alaska-Orient House in commercial and cultural headquarters for visitors arriving via Northwest Airlines' Great Circle route to the Great

Flight surprises remaining the crew of the AAF Decadent found them 70 efficient at the end of the Hawaii Canal flight. Crew member days as a series of five hours during the 40 hour flight, suffered mild dehydration, minor headaches and eye soreness. As a result of these observations the Air Surgeon recommended installation of dehydrators in all future long range aircraft cockpits or decontamination.

► Lockheed Aircraft Corp. is planning to boost its payroll to 30,000 by the middle of next year.

► RCA is forming a special engineering group to develop Telescan—its new comparison system combining television with radar. Dr. Douglas Ewins, formerly assistant director of the MIT radiation laboratory who has headed the Telescan project for RCA, will head the new group.

► Taylorcraft's Art, side-by-side, stripped down, \$1999 personal plane has its price listed \$100 as a result of the recent Continental engine price hike but still claims to be the lowest priced plane on the market.

▶ Al Mooney, who is reported developing a one-place all-metal personal plane at Wichita, has designed his plane around a 23 hp. Cessna engine. The plane is being developed as a 100 mph rental job.

▲ AAR is turning to ceramics for possible solution of the problem of developing new heat-resistant materials for rocket and jet engines. University of Illinois will do basic research in its ceramic engineering department.

Lockheed last week held the three top awards of the National Safety Council for aircraft industrial safety in plants recording 3,000,000 manhours work per month. An industry-wide rate of 0.66 manhours lost per million was reported. Three of Lockheed's plants had ratings of 2.10, 3.10 and 3.76 to top the list.



Just a look at the record is enough to convince even the most casual observer that progress in aviation engines has always been closely related to progress in aviation fuels. Today, as the next chapter in aviation history is being written, it is still apparent that improved fuels make feasible the development of even more efficient engines.

Ethyl Corporation
 Chrysler Building
 New York City



Manufacturers of Ethyl fluid, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

Big Cities Battle for Lion's Share Of Federal Airport Program

Small field proponents counter-attack at CAA hearings; Mayor Kelly of Chicago protests to Truman.

By ALEXANDER MCKIBBY

Speakers for the big cities and the big airline terminals spoke first, and loudest and longest, last week at the five-day Washington CAA hearing of comments on proposed regulations for administering the Federal Airport program. But defenders of the little grass-roots community airfields launched a warzone, at belated counter-attack to protest their interests, in the closing sessions.

And at the end of the turmoil and the shouting, CAA airport specialists plunged into the mass of conflicting testimony and with a promise to emerge with a redraft in two weeks "in a form to be widely acceptable," from C. B. Donaldson, assistant administrator in charge of airports.

Heavy Artillery—The big airport speakers, included such formidable artillery as Mayor Edward J. Kelly, Chicago; Robert Ranspach, executive vice-president of Air Transport Association; Alfred MacDonald, Wichita airport commissioner and spokesman for the American Municipal Association; the mayors of Detroit, Atlanta, Newark, and by proxy, the mayor of New York.

Primarily they took CAA to task for its proposed formula which would limit the \$9.50 matching of federal and local funds to the first \$2 million or less expended on the large Class IV and V airports with a decrease of 15 percent progressively of federal aid, for each additional million spent. Kelly declared the formula nullified the intent of Congress, and followed up his CAA testimony by going to the White House to complain about it to President Truman.

"On an \$11,000,000 project, that formula results in a federal grant

of but \$1,200,000 or 20.8 percent," he complained.

Harsh Criticisms—"It is quite obvious," intimated J. B. Hartruff, general manager of Aerial Canners and Pile Association, "that some big cities are eager to gobble up their state's share quota of airport funds without leaving so much as a tiny morsel to towns and villages."

He pointed out that Baltimore was asking a \$4 million grant although the whole state of Mary-

land had been apportioned but \$3,171,486. Detroit is asking \$3 million for Wayne County airport, nearly half the entire Michigan apportionment, and Chicago is asking one-third of the sum allocated to Illinois. He called for equitable division of airport funds between the big airline terminals and development of smaller fields.

James W. Backeler, attorney for United Pilots & Mechanic Association, declared that the era of public financing of huge airports was coming to an end. Funds for expansion and new development of the big self-maintaining airports should rather be provided by revenue bonds, to be retired from airport revenues. He pointed out further that during 1940-1945, the government had spent \$364,906,000 in building 204 Class IV and 62 Class V airports, under the Defense Landing Area program, and the development of



Mayors Protest CAA's Handling of Air Port Funds: Led by Edward J. Kelly of Chicago, and Col. Paul V. Bremer, new director, U. S. Conference of Mayors, a group of mayors protested to President Truman his last month against regulations of the Civil Aeronautics Authority covering distribution of money appropriated by Congress to build municipal airports. Left to right: Mayors Thomas A. Burke, Jr., Cleveland; Otto, Edward J. Jeffries, Detroit; Mack, Oscar Reutter, Public Works Commissioner, Chicago; Mayor W. Coe Green, Birmingham, Ala.; President Truman, Col. Paul V. Bremer; Mayor Frank J. Murphy, Newark, N. J.; John J. Burns, Burlington, Vt.; and Edward J. Kelly. (International News Photo)

Civil Landing Area program, while not a simple aspect of Class III use or less was built with these funds. It is urged that it is vitally important that special attention be given the development of the smaller fields now.

Hampcock's Recommendations — Hampcock recommended that the CAA make any limit on the discretionary funds to be distributed by the administrator, so that these could be used, whether or not other money is to be allocated to a state had not been distributed. He attached a one-year limitation on airport construction and provided that the use agreements provide in the proposed regulations would prevent money airports from participating in the program, if they applied to present agreements, so as well as future ones.

He attacked the Class IV and V formula, as contrary to the intent of Congress, and said that the 30-50 formula should be departed from only in the case of some extremely large expenditure of \$50 million or thereabouts for an airport in the Louisiana or Missouri class.

MacDonald attacked the proposed rule on the theory that they were an encroachment of federal power on municipalities, which would give CAA legislative, judicial and administrative power in

competition with many state laws. He devoted from his comments on the airport aid program to voice a blistering attack against the federal government for failure to turn municipal airports "borrowed" during the war, and pointed to damages suffered by many municipal fields in wartime use, and the failure of the federal government to make adequate recompense.

News on Both Sides—At New, Louisville municipal airport meeting, issued himself warning on both sides of the debate. He wouldn't endorse the attempt of the regulations to increase the amount for small airports, when it caused the larger fields to suffer. But he didn't put out that private funds make up over 50 percent of the airport's flying activity, in opposing over-emphasis on developments of big fields, seldom used by private firms.

Lawell H. Swanson, National Aeronautics Association executive vice-president, declared that his organization supports strenuously to

any move to gobble up available airport funds in a few large projects, and called for an equitable distribution among large and small fields.

Wayne Weibach, secretary of Aeronautical Training Society, presented testimony for one of his members, Oliver L. Parks, R. St. Louis, Ill., in support of adequate funds for the smaller fields. Parks, president of Parks Aircraft Sales & Service, stated: "The original demand which resulted in passing the CAA airport program was the need for Class I, II and III airports. The preponderant need was for a large number of small airports close to the grass roots, which would really serve the people everywhere."

Kindred for PAC—Robert Kindred, Boeing Washington representative, speaking for the Personal Aircraft Council of the Aircraft Industries Association called for adequate allowance for all types of airports. "The Association feels, most emphatically that the formula which has been

developed by the Administrator to interpret the mandate should not be repeated solely on the basis of the interests of one class of airports as opposed to the others."

A tally of the speakers showed endorsement of the CAA formula by the little airport spokesmen, and condemnation of it by the big airport advocates, virtually without exception.

Managing Director E. E. Fennema of the Associated General Contractors of America, voiced general approval of the regulations except to protest a requirement for inspection of contractor's records to CAA.

Charles Ryman, general counsel of National Institute of Municipal Law Officers, took the proposed regulations apart under by section examining them as regulations, involved, outlying, with too much detailed regulation, and urged briefly in their rewriting.

R. J. Burkhardt, manager, Standard Oil (Indiana) aviation division, and chairman of the aviation advisory committee of the American Petroleum Institute, and R. E. Birmingham, counsel for Economy-Vacuum Oil Co., urged the prevention of publicly operated fueling systems at airports, or exclusive contracts in interference with free competition of the various oil companies. They declared that the fee paid for an exclusive product concession is passed on to the price of gasoline sold at the airport, as an unfair additional charge to the airport users, over and above rentals and landing fees they must pay.

Plane Production Increase

While production of military and transport planes peaked in September over August, output of two-place personal planes continued the decline but not so sharply in August, according to Census Bureau figures.

Chiefly due to the increased production of the more expensive military and transport types, overall value in September was up 65% over August, \$36,948,445 to \$23,482,000. Aircraft deliveries of two-place planes fell 46% from 4,118 to 2,794, with in other types brought into September deliveries to 4,478, compared to 4,706 in August. Military sales went up 30% in September, production of three and four-place aircraft, 30, and five-place and larger planes, 12.

Total military deliveries in the month numbered 138, valued at \$22,324,211, more than double the August value. Civil planes totaled 4,240, valued at \$1,943,251, a 16% increase.

Military orders continued to constitute the largest proportion of the industry's backlog, with

(the part of the backlog increasing in September from 2,344 to 2,423, or in value from \$157,334,472 to \$162,084,712). This, plus an increase in orders for three- and four-place planes, brought backlog as of Sept. 30 to \$1,125,648,780, compared with the Aug. 30 figure of \$1,121,618,581.

Lenders further support to reports of a weakened market for personal planes, the two-place backlog stood at 32,344, or 26,250, even though deliveries of that type also were falling.

Another Census Bureau report disclosed that export of planes gained two in number in August over July, from 215 to 218, although value decreased from \$4,138,800 to \$4,606,800. Value of exported aircraft has continued to decline from the year's high of \$11,549,000 in June which topped May's figure by a small margin.

Principal reason for the drop was the July grounding by CAA of Cessna's "twins," which temporarily interrupted deliveries.

months. Two features found in most, however, are cockpit faired in and a "mushy" head. This form of fuselage to the target is preferred, at least at this point, over telescopic because it is more certain, less complicated, cheaper, and requires less manpower.

Two-rocket Missile — Perhaps the latest missile constructed at NAMU is the KIRV-2, powered

by two hand-held rockets and expected to reach 150 mph. It is also, with stubby wings and a butterfly tail.

One of the outstanding armaments in the NAMC show was the KIRV, built by McDonnell Aircraft. This is Navy's new service type of powered guided missile. It has completed tests at the Mojave Desert test station and a produc-

General Electric Gyro-Glider



Combining features of a glider and an airplane, a single place Gyro-Glider has been built by General Electric Co. with the expectation it will find many commercial applications in non-military areas with restricted landing space.

Claimed to be the first craft of its kind built in the U. S. (a device of similar configuration displayed last year at Wright Field was a British Bircroft), the Gyro-Glider was designed by

three GE engineers, Ivar B. Rosen, R. H. Hall and David C. Phipps, v.p. of the aircraft engineering and consulting laboratory. Left is furnished by two nine-ft. rotors which are set in motion by the passage of air as the craft is towed to achieve flight. The Gyro-Glider weighs 120 lb. and can hit nearly 200 ft. in clearance as more than a 40-ft. diameter landing space. On landing, it has a forward roll of from 25 to 30 ft.

Vital Statistics

Records compiled by Civil Aeronautics Administration as to the number of pilots and airports, as of Oct. 1, disclosed last week are:

Pilot's Pilots	136,832
Commercial Pilots	39,404
Aviation Pilots	8,711
Student Pilots	8,711
Number of airports	200,000 approx
Public airports	1,201
Municipal airports	44
Commercial airports	1,363
CAP airports	1,363
Private airports	1
CAA intermediate airports	202
Municipal airports	44
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tion order has been placed with the manufacturer. It, too, has battery test, and is powered by a turbo-jet engine.

Another Navy guided missile is powered by a pulse-jet engine, has a speed of 410 mph. This is an anti-aircraft weapon and is effective up to 10,000 ft. This is one of the seven missiles Navy is developing for ground launching. Most are air-to-air or air-to-surface weapons.

Naval "Wright Field" — The Naval Air Material Center, a sort of Navy version of AAF's Wright Field, is a jointly-expanded outgrowth of the old Naval Aircraft Factory. It was established in July, 1942. It now occupies at the Factory, Naval Air Experimental Station, Naval Aircraft Maintenance Unit, and a Naval Auxiliary Air Division.

With the emphasis on research and development, NAMC has more than 600 projects now in progress. They range from the basic testing of aircraft structures and engines down to testing and designing jet engine lackouts which must stand up under temperatures as great as 1,400 degrees F.

One of the projects now entering the stage where definitive data may be expected is free-air testing of sonic models of German FFP aircraft fighters. These models, each a span of about 4-6 ft., are fitted with strain and other gauges and data are telemetered to ground operators. Two drops have been made, but the procedure has not been perfected.

Hope is to drop these models down about 30,000 ft., and the resistance will fall at about a 26 degree glide angle reaching a speed of about 540 (about 416 mph).

Handicapped by lack of facilities for testing jet engines and other new propulsion devices, NAMC has been concentrating on testing of reciprocating engines, although there are turbo-jet, ram-jet, pulse-jet and pulse-jet engines undergoing various forms of testing.

McCheskin Leaves ELC To Take Economic Post

Robert J. G. McCheskin has been appointed as assistant secretary (International) of the Economic Bureau of CAA to succeed John Sherman, who resigned to become executive secretary of the Air Coordinating Committee. McCheskin immediately prior to

assuming the CAA post was director of the aircraft division of the Office of Foreign Liquidation Commission, which was charged with disposal of war surplus located overseas. Previously he was assistant chief of the air transport division of the Bureau of Economic Warfare and Foreign Economic Administration from 1942 to 1945. He has had wide personal observation of transport operations throughout the war through his work with GFLC. Before entering Government service he was a professor of economics at the Wharton School of Business of the University of Pennsylvania.

NATA Will Meet For Reorganization

With the reorganization plan approved by the requisite number of members several weeks in advance of the target date, the National Aviation Trades Association will meet in Cleveland this week to reform as a federation of state associations, to elect officers and approve the budget and work program for year beginning Dec. 1.



NAVY AIR CHIEF:

John Nicholas Brown, of Rhode Island, has been appointed assistant secretary of Navy for Air. A wealthy broker and realtor, he was a Naval aviator in World War I. Brown made his first public appearance in the new role of the industry display at the Naval Air Material Center under a plume that came with ideas for improving Naval aviation. "I'll always be welcome at the Secretary's office in Washington."

C-54 Sale

War Assets Administration placed on sale last week 22 C-54s and 153Cs and 44 C-47s and 44Bs, in addition to 44 liaison planes, one Ercoupe and a Northrop Noronca.

Prices very attractive to one dealer and for the C-54 types range from \$75,000 to \$90,000, and for the C-47 types from \$15,000 to \$40,000. Most of the liaison planes are Dornier and are priced at \$175 to \$2,000. Twenty, still packed in the original crates are at the Naval Air Station, San Diego, Calif., and are priced at \$1,700 each. The Ercoupe is tagged at \$2,000 and the Noronca at \$10,000. Information as to location of the planes, basis of sale and procedure can be obtained from WAA regional office or from Office of Aircraft Disposal, WAA, 420 Second Street, Northwest, Washington 25, D. C.

The meeting, held in conjunction with the National Aircraft Show, will convene Wednesday morning at the Statler Hotel and continue through Thursday. Preliminary indications are that between 60 and 100 delegates and alternates, representing existing state associations or organizational committees for such groups, will attend.

The plan to reorganize NATA on a state, rather than regional basis was put forth last July following appointment of Harry McCheskin as executive director and later approved by a board meeting at Cleveland. At that time it was decided to attempt to obtain support for it by the members in one-half of the states containing one-half of the total population by Nov. 10. By last week, approval had been obtained by more than that number, including the entire membership of Region I (New England and Middle Atlantic states), as well as the West Coast.

First meeting this week will be held Wednesday afternoon of the membership as now organized. It will receive the report of the adoption of the new constitution and its ratification by one-half the states, under a final report, adopt resolutions that will terminate the present NATA regional set-up, and designate officers to provide at the state delegates' meeting the following day. It will also receive suggested work program, budget and expenditure formula, and appoint a nominating committee for officers.

CIO Strike Collapse Is Studied for Pattern

Labor makes few gains in post-war aircraft industry as management's attitude stiffens

Collapse of the CIO, strike against some of the plants of Allen-Chalmers Manufacturing Co., which seven plants (see expanded) in development of an aircraft jet engine) were closed for nearly six months, is being studied closely by the industry which sees the return to the old formula of collective bargaining, free of Government intervention.

Use of the atomic power in war and under most (see the risk of losing a strike, a risk that was not present in wartime. Strikers now began to have to fight out by union without assistance from the Government. Despite a wave of new wage demands, industry leaders see a possibility that unless, in the light of recent developments, we'll think twice before collect strikes.

More Resistance — Management resistance, like that demonstrated by Allen-Chalmers, is likely to become more prevalent in the second round of wage disputes. This would put a severe strain on already deflated union treasuries. The length of the Allen-Chalmers strike is an example. The walkout of the Le Gros, which itself had been in progress 170 days before settlement, four other plants had opened earlier, A-C plants at West Allen, Wisc., and Boston, Mass., were still closed last week.

Union progress in the aircraft industry has not been great at late. On the West Coast, three out of four recent bargaining efforts, conducted under National Labor Relations Board, were lost by the International Association of Machinists, Unaffiliated, and the United Automobile Workers, CIO.

UAW has found it necessary to reduce organizing activities in aircraft plants. It has cut its organizing staff among aircraft, employee and airline mechanics in half. This action of more than 60,000 members has been operating at a deficit of \$70,000 a month despite a 10% increase from \$1 to \$1.50 monthly.

P.O.D. Losses — After the third time in 18 months aircraft employees in the Hawthorne, Cal., plant of Northrop Aircraft, Inc., voted



POWER AT THE WINGTIPS:

Demonstrating two remote engines installed on the wingtips, North American P-51 Mustang gives a demonstration flight at recent meeting of Institute of the Aeronautical Sciences at Wright Field. Taking off with the standard power plant, remote are used for additional velocity under emergency requirements. (International News Photo)

against the UAW-CIO. The vote was 1,485, or 69.3%, for the union and 643 for the CIO. The CIO's showing has been increasingly worse in each election. The vote was 50-49 against it and the I.A.M. in April, 1948, and 71-29 against the same unions last December.

At Lockheed Aircraft Corp., Burbank, Cal., the I.A.M. was defeated the right to represent super-sonic when motion pictures voted 80 to 15 against the union and group representatives opposed it by 64 to 10.

The I.A.M. also lost at Pacific Aerospace when employees in San Francisco voted an independent union, Aero Employees, Inc., 254 to 174. **I.A.M. Victory** — A victory was scored by the I.A.M. among super-sonic employees at Boeing Aircraft, Seattle. The Seattle Super-sonics' Lodge 1350, I.A.M., chartered only last June, met 230 votes, with 74 votes cast for "no union."

Aluding for a master contract like the one it has at General Motors, the UAW-CIO has handed its local unions having individual contracts with subsidiaries of Aviation Corp. into a "southern." An organizational meeting is scheduled for Nov. 5 and 10 in Chicago. Preliminary plans were laid at a session in New Castle, Pa., in October.

The UAW-CIO's Bendix council is amending organizational efforts at the Bendix Pioneer Division of Bendix Aviation Corp. at Teterboro, N. J., where the union

is seeking to replace the Independent Aircraft Workers Union of New Jersey as bargaining agent.

Navy Will Test Improved GCA Unit

A new station to test the effectiveness of Ground Control Approach (GCA), radar landing system, as well as a new, more precise unit, is being installed by the Navy in Rhode Island. It was announced last week. The Navy Air Navigation Electronics Project at Charlestown, will conduct experiments in conjunction with the Naval Air Station at Quonset where the improved GCA unit is expected to be in operation next June.

The latest unit, which has been built for the Navy by Bendix Avionics, needs only four instead of five operators, but for the first time will enable three planes to be in the approach pattern at the same time, an innovation which the Navy hopes eventually will completely eliminate "stacking" in bad weather.

This latest development of GCA utilizes a height finder antenna which, combined with a search antenna gives an operator identification of every plane within 10 miles in relation to its distance from and height above the field. These data appear on two scopes utilized by a single operator. He can direct as many as three planes in the final approach, keeping each at the proper altitude. When a plane is

Schweizer Designs New Soaring Plane

Schweizer Aircraft Corp., Elmira, N. Y., has announced plans to develop a high performance one-place sailplane, Model 131, of all-metal construction except part of the wing and control surfaces.

Painting out this former sailplane are largely good-looking even in American soaring meets. Paul Schweizer has proposed to build a limited quantity of the new type sailplane to be ready for use by next summer, at a price of \$2190. Schweizer Aircraft, at sufficient advance orders are received to make production possible. The company is acquiring a \$750 deposit with each order, and will make delivery in the same sequence as deposits are received.

The sailplane will have a design speed of 148 mph and a placard speed of 136 mph. Specifications include 31 ft. wingspan, 22 ft. 1 in. in length, 185 cu. ft. wing area, 300 lb. weight empty, and 15.70 aspect ratio.

Standard equipment will include: two sets of spindles, one double, to be used as a drive brake and the second set, single, and coupled to the wheel brake, for glide control on approach, low-drag thin wing design made possible by high strength resin construction; variable wing loading obtained by disposable water ballast in wing; simplified design for quick assembly, accessibility and interchangeability of parts; high load factor for acrobatic and inverted flight; roomy bubble canopy



MEYERS SPORTPLANE IN FLIGHT

New flight picture of Meyers Aircraft Co.'s two-place sportplane, Model MAC-119C, shows new lines of the plane enhanced by exhaust pipes, added since earlier photos. (Aviation News, May 12) Exhaust screens protruding from cooling are standard equipment. Plane now has top speed of 141 mph, two sails faster than earlier tests showed. The all-metal plane has wingtip slots and hydraulic retractable landing gear. It cruises at 130 mph and lands at 45 mph with flaps. Production is scheduled at Tecumseh, Mich., as soon as the experimental prototype completes CAA tests.

cockpit, adjustable seat, provision for extra instruments, cup holder.

Extra and optional features include: full flush covey; connection of the single-wheel landing gear, or replacement with single dual gear if desired; special rubber floor panel job; instrumentation to personal requirement; navigation lights, traffic and special assembly features.

Ecopipe Meeting

More than 75 Ecopipe distributors and dealers are expected to attend a sales convention conducted by George Ryan, director of

sales for Engineering & Research Corp., Riverside, 361, Nov. 18 and 19 at the Sheraton Hotel, Washington, D.C. Speakers will include various officials of the company and representatives of Continental Motors Corp. Following the meeting most of the group will go to Cleveland for the National Aircraft Show.

Grand River Air Park Is Operating

Grand River Air Park at Grand Rapids, Mich., on the site of the former West Michigan fair grounds,



BACKLOG WAITS FOR CAA CERTIFICATION

Helson Aircraft Co. plans to go into production of its 28 hp. Dragger, a four-seat, single, at San Fernando, Calif., to meet a backlog of approximately \$750,000 in orders already received, as soon as CAA certification is obtained. The four-seater two-cycle 28 hp

Helson engine weighs less than 50 lb., but will lift the glider in a power takeoff with a 50 ft. run. The engine is shut off for soaring and gliding, but may be started with a pull cord, if power is needed to sustain flight or in making a landing.

is in operation on a limited scale, both as a landplane and seaplane base for private flying, despite construction delays due to materials and labor shortages.

The 120 acre air park has three graded runways, 1000, 2000 and 3000 ft. long, and a full side of landing on Grand River. The main hangar 140 ft. by 62 ft. is fully enclosed and 30 T-6 hangars have been erected. Two fixed base operators are already doing business at the field, and two more will be admitted.

When completed, the airport is expected to be a \$250,000 investment, with many recreational and amusement features including motor boat anchorage, drive-in theater, club, picnic and play grounds, riding academy, etc. (Aviation News, March 11, 1946)

Officers include: W. Scott McConnell, president; Mr. Meno Bell and O. C. Hill, vice-presidents; Robert Hickey, secretary; E. A. McCready, treasurer; and Paul Miller, Oliver A. Wallace and Harry J. Budge, directors. Hall, general manager of the airport, is also toll owner of Flaming Poplar, carpenter, and sponsor of Northern Air Service at Kent County Airport, south of Grand Rapids. Miller, a general contractor, has built many airfields in Michigan, and is in charge of construction, while Wallace, a senior partner in Wallace-Lundman, Inc., advertising retained by Continental Motors Corp. The others are local business people and flying enthusiasts.

Location of the airport, 18 minutes drive from the center of town, and fronting on a municipal bus route, makes it advantageous for Grand Rapids citizens, while the city's location at the gateway to the northern and western Michigan resort areas, makes the airport a natural stopover for vacation-bound pilots.

Utah Is Extending Control of Aviation

Utah's state engineering commission last week announced a new set of aviation regulations, greatly expanding the state's control over private flying. State Aeronautics Director Joseph Bergin, said the new regulations would give the state better control over pilots who are doing aviation in Utah's "diversity" by both and reckless flying.

Any violation of the new regu-



Home of Cessna: Two Cessna two-place Model 140, are shown flying away from their home field and factory at Wichita, Kan., in this aerial photo.

lations will be classed as a misdemeanor, carrying maximum penalty of \$500 fine and/or six months jail sentence.

The regulations include:

Pilots making cross country flights must register at all airports, giving their name, the make, color and a number of their plane, time of departure and arrival and point of next intended landing. This information must be given at every airport and on every landing on any cross country flight.

Buzzing, low flying, operating an aircraft in such a manner as to disturb the public peace or to frighten or annoy persons on the ground, or in other aircraft in the vicinity, at low altitude over populated areas, assemblies of persons, automobiles, boats, livestock, poultry flocks, sties or fox farms is prohibited.

Permission will be required from the state aeronautics commission for acrobatic flying within a mile horizontally of any airport, populated district or assembly of persons. Permission is also required before anything can be dropped from an aircraft in flight unless the action is necessary in an emergency.

Shooting at airports is forbidden.

The new regulations also prohibit any person from permitting any pilot to solo on aircraft of a larger type, or having "different characteristics" than the type he is

Flying Town

Orion is one of the most air-minded small communities in the Nation in Gregory, Mich. (population, 800)

A year ago Gregory had no airport, but had 18 licensed pilots among its residents, who were flying at Howell, 30 miles away. The Gregory firm operated a local airport club, took a 10-year lease on a hilly airport site and the community banded out to provide what few labor which made the field ready to use in two weeks.

Approximately 180 persons have availed their private pilot's license since the field was opened. Currently there are 60 and up members in the Airport Club, most of whom fly, 24 veterans students under the GI flight training program, and 40 others taking lessons or already flying their own planes. There are also 30 persons at the surrounding area who own their own planes and fly in at Gregory frequently for groceries and mail.

Type 1 Gregory flying Charles H. Hays, Gregory Airport Club president. The Brenner family, including R. D. Brenner, garage operator, his son, Glenn, 15, and daughter, Jackie, 16, all fly. Les Guzman, 38, carpenter, oldest flight student; Rex Hixon, farmer, who has own strip; and Mike from Gregory.

accounted to operating until the pilot has been thoroughly indoctrinated in the stall and spin characteristics of the new aircraft.

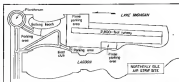
Adoption of the new regulatory maximum cruising climb rate of the most narrowly restricted states in the rules of private flying.

Previous legislation had already made it unlawful to operate an aircraft from any field not formally designated by the commander as a landing strip—with minimum requirements established for that designation, a law that automatically makes any flying farmer, sheep or cattle raiser a law violator when he lands on his own ranch regardless of its size or capacity.

Potomac Seaplane Base Is Approved

Over-riding protests of adjacent property owners and residents, Maryland State Aviation Commission, last week, approved application to develop a seaplane base near miles south of Washington, at the mouth of Hensel Creek on the Potomac river.

The state designation, awarded to Palmer C. Seasmith, Bethesda, Md., was contingent on compliance with federal and state aviation regulations and local zoning regulations. The commission reiterated its position that no airport or seaplane base development should be blocked by fear of its hypothetical effects on neighborhood or community property values. It was



CHICAGO AIRSTRIP:

Proposed plans for the much discussed Chicago lakefront airstrip, on Northwest Island, site of the 1932 World Fair, shows the 2,000-ft. runway, and parking facilities, south of the Adler Planetarium. Council action approving the \$1,000,000 development is expected soon, and may be within operation in a year. Only 45 miles across the lake from the Milwaukee downtown Municipal airport, the Chicago project is likely to mean commercial shuttle air service between the two cities, as well as considerable private flying traffic.

stipulated the base will be operated only in daylight hours.

Seasmith's plans to construct a ramp, and hangar, install moorings and buoys, provide restrooms, fueling and minor repair facilities and to give instruction in operating airplanes.

Most of the opposition centered on the flight training program, and fears that student pilots would crash in adjacent property. Opposition included an attorney for the Ladies Association of Mt. Vernon, who expressed fear that a plane operating from the Hensel Creek base might fall on the base-

ment residence of George Washington, and set it on fire. Sumner Welles, former assistant secretary of state, who lives near by, protested the "intrusion to residential property."

Supporting testimony included that of Harold McFarland, speaking for AGPA, who urged the need for a seaplane base in the Washington metropolitan area, and W. H. Wagner, CAA, who pointed out that the CAA had proposed construction of a seaplane base at the site chosen by Seasmith, as the national airport plan.



VOYAGER PUTS ON FLOATS:

First photograph of the Shuman Voyager 150 with the new Edo Model 245 float shows six floats at Portland, Me., where Milton Shuman, president, Northwest Aviation Co., is handling float tests for CAA approval. The plane was modified by Shuman, in cooperation with Edo. As a float plane it carries 225 lb., and accommodates three persons with a full gas tank and 80 lb. of baggage. It is expected to get approval as a four-place seaplane, with approximately half gas load and no baggage.

Private Flyers Get 122 Megacycle VHF Frequencies

Permanent assignment last week by the Federal Communications Commission of VHF frequencies in the 122 megacycle band for private flying, opens the way to immediate use of some of the new VHF type radio equipment prepared for general aircraft by a number of manufacturers.

Pending the permanent frequency allocation, the equipment has been used in tests on the temporary private plane frequencies of 133 and 131.1 megacycles, and the 131.5 test frequency.

Bendix Radio division, Baltimore, followed the FCC announcement with immediate announcement that its PATN-16 flightphone and PATN-50 VHF transmitter are now in production for operation on these new frequencies.



CESSNA ON SKIES:

Cessna Aircraft Co. is preparing for tests with six of its two-place Model 120 and 140 personal planes. Tests are of unusual interest because it is first air installation in the uncommercial Cessna spring steel landing gear.

The assignment includes frequencies 122.1 and 122.3 for private aircraft on route, air-to-ground, and 122.5 through 122.9 for private plane intercom, air-to-ground. CAA has announced that beginning Jan. 1, it will guard the 122.1 and 122.5 frequencies, while the temporary frequencies 131.7 and 131.9 will be guarded until the transition is made.

Fatal Test Flights

A test plane died at a speed more than 25% above the "never-exceed" speed of the airplane, resulted in the crash of an experimental Beech Model 23 Seastar, and the death of Harry Miller, test pilot, near Anderson, Ind. Robert King, engineering observer, was able to parachute from the plane and sustained slight injuries.

King said the plane was driven from 12,000 ft. and had stalled a time elapsed of more than 200 mph when a lurch blew open a series of progressive flaps followed. Miller did not bail out, probably because he was injured in the fall.

The test had sought to investigate strength and safety factors of the airplane above speeds at which it was designed for operation, and was scheduled as the last in an extensive flight research program.

Briefing For Private Flying

AS OTHERS SEE US—An appraisal of American private flying, by Sir Roy Fedden, former special technical adviser to the British Minister of Aircraft Production, made after a recent tour in this country, indicates that the United States is far ahead of Britain in lightplane development and in public interest in personal aviation. A few private American personal aircraft are "ready good jobs with all-metal construction, in their general form and cleanliness of line approaching the modern military fighter with metal-reinforced wings, retractable undercarriage. Most have adequate power and are equipped with electric starters, fuel instrumentation and, in certain cases, fuel prevention equipment. There is serious talk of radio and safety navigation facilities and suitable propeller followers in a year or two." He cites Ercs, North American and Beechcraft, for their engineering and leading for mass production for all-metal personal aircraft. He contrasts with British personal planes, some of which he says, is all-metal, and which cost about double what the private British counterparts. Plans remain thin, are about double what they are in America. He blames the British civil aviation authorities for their failure to encourage light aircraft use and development, and calls for more thought and action on lightplanes, both among manufacturers and government circles. He wants "it is going to be fatal for this country (Britain) to drop out of the light aircraft." Our private people should learn to fly or it will be a very serious drawback for the country."

NEW VIBRANT—New possibilities for high speed personal planes are being opened up by the promising Taylor Telerex Chrono-Tough design, originally developed by Charles Taylor, chief engineer, Vought Consolidated, when he was at the NACA Langley Field laboratory, in his spare time, as a personal plane design. Zimmerman stiff thinks the plane has great possibilities in a personal aircraft, although the development now relies on an Navy sponsored (V-112 and XF5U-1). As will be recalled ("Aviation News", July 1), the flying full-scale model V-112 has propelled interest in the airplane design by its performance. They call the plane through the air at high speeds in level flight, or the aircraft can be "hung" as its propellers, at low rpm, to fly at very low hovering speeds like a helicopter. It is predicted that the Pratt & Whitney R-2800 engines to be used in the XF5U-1, with water injection will give that plane the phenomenal speed range of 38 to 460 mph. A similar aircraft, an earlier proposed design, had a speed range of hovering to over 500 mph. Main objection to high speed in personal planes has always been the accompanying high landing speeds, with their hazards for inexperienced flyers. The Zimmerman design promises to minimize this objection, by permitting a high speed plane to land at speeds even slower than those of the conventional piston-jet.

JEEPS IN THE SKY—The story of the lightplane in World War II is told in "Jeeps In The Sky," a book by Lt. Col. Andrew Tom Kitch, AAF, Commonwealth Books, Inc., New York (\$3). The book is scheduled for December publication, contains numerous action photographs.

CALIFORNIA FLIGHT PROGRAM—At a cost of 50 cents a pupil (for a \$10,000 accident insurance policy) the California State Board of Education and the Civil Air Patrol have arranged to provide 5,000 California high school students with eight half-hour flight lessons during June 20. Twelve students and eight teachers of Redwood Union high school recently were the first to fly in the program, at Campton, Airport. In six planes, two supplied by airport owners and the others by CAP members. CAP has agreed to furnish pilots, handle insurance, and provide government-owned Stinson L-1 liaison type planes which are better suited to CAP. Students are given an eight-hour flight lesson only in illustrative classroom lectures. The state is providing \$216,000 for the program. The board is authorized to pay \$5 an hour for gas, oil and maintenance of planes supplied. Remainder of the fund is for consultant salaries, office equipment, and 10 CAP group headquarters. —Alexander McNelly.

COAST-TO-COAST...NONSTOP...SLEEPER TRAVEL!

PAN AMERICAN Pioneers Again



BEDS ARE WIDE AND COMFORTABLE...in the "Clipper Flying Cloud" and her sister ships...are wider than those in "lower" air. It is standard sleeping cut fold, railroad rest room...special sound-dampening where sleeping comfort! You can really rest on overnight flights, and arrive at your destination feeling fit and fully refreshed.



A PIONEER COMES HOME! In line with the Government's post-war policy which permitted U. S. domestic routes to operate abroad and which would permit the post-war overseas system to operate domestically, Pan American released revolutionary coast-to-coast service before available. This Pan American will be able to provide high-speed, nonstop service between distant cities within the United States. This map shows the proposed routes which will bring to the domestic field the "know-how" of the trained personnel, and the competitive spirit which has helped Pan American win first place for America in the international field.



MODERN CLOTHING ROOMS. Here is a view of the most dressing room - comfortable, and completely equipped. Ladies' lounge (not shown) has two well-articulated make-up compartments.

PAN AMERICAN



Preview of the Great New "CLIPPER FLYING CLOUD"—first of a fleet of four-decked Clippers—to enter service next year as America's largest, roomiest airline.

Last month... Pan American made air transport history by giving a preview of revolutionary new long-range schedules to be made possible by the world's FASTEST airline.

Now... Pan American offers for 1947—Nonstop, Overnight, Coast-to-Coast, Flying Schedules—with "Featherbed" Sleeping Comfort on America's LARGEST airline.



A ROOMY LOUNGE. A feature of these new, four-decked Clippers, which all passengers will welcome, is a pleasant roomy lounge, reached by its own spiral staircase. These accommodations will be served during Clipper flights.

Only Pan American can offer you BOTH!

Next year, increasing enthusiasm is obtained from the Civil Aeronautics Board, Pan American will put into operation not one, but two types of revolutionary aircraft... The 430 mile an-hour "Clipper Rainbow" and the great 540 mile-an-hour four-decked "Clipper Flying Cloud," with their great fleet of sister ships.

By day, you can travel in long-leg chair comfort at post-ship speeds (fastest ever offered in commercial flying) and swing your way Eastward across the continent in as little as five hours! Or, you can enjoy the softness of "Featherbed" sleeping comfort on overnight schedules, traveling in roomy, luxuriously equipped "sleeper" planes.

Pan American was first to place orders for these ultramodern airplanes... will be first to receive them... and first to offer to the American public the combination of high-speed and "sleeper" service.

Passenger schedules at parish phone speeds



THE "CLIPPER RAINBOW" and her sister ships will offer only revolutionary long-range schedules, made possible by their 540 mile-an-hour speed. For instance, you can have New York at 6:30 after breakfast and arrive in Los Angeles, Seattle or San Francisco's landmarks date at 1:15 Pacific Coast Time from New York you can be in Miami in three hours, New Orleans in three and a half hours, or Houston in four.

WORLD AIRWAYS

The System of the Flying Clippers

Airline Credit Sags to New Low As Expected Earnings Fail to Appear

Easy money period over as financial institutions show variance over further airline financing needs; mail pay seen as key factor in revenue.

Airline credit—temporarily at least—is at a new low. Less than a year ago, banks and insurance companies were competing with one another to advance funds to air carriers on very favorable terms. This easy money period is over. The holders of airline notes are now showing signs of anxiety.

The recent quotation of 66 cents on the dollar for Pennsylvania Central Airlines debentures reflects the movement of the investment market toward the air transport industry. Earlier this year, these debentures sold at 120%. This time was recorded late in 1945 at 160 to the extent of \$15 million, and immediately sold at a premium due to their conversion feature. They carry a 3½ percent interest rate and are convertible into common stock at \$100 per share prior to Sept. 1, 1946, and at higher prices thereafter. This issue is due to be paid off in 1960 but is callable prior to that time at 104½ (up to Sept. 1, 1947).

Investment Value.—The real speculative value of this issue has long been the conversion feature. With the common stock selling at 40½ early this year, the debentures yielded premium prices. Subsequent action caused the debentures to follow the fluctuations of the common stock. This characteristic of the debentures causes them to be considered as assuming the attributes of a preferred stock rather than that of a bond.

PCA has failed to develop any carrying power thus far during 1946 and the market has reflected its disappointment in the price of the company's securities. For the third month ended August 31, 1946, PCA reported a net loss of \$103,000.

This relative airline credit value stock from carrying power is

evidenced by the current price action of the senior securities of American Airlines. In June, 1946, American sold \$60 million in new 3 percent debentures and \$48 million in 3½ percent convertible preferred stock. Both of these issues failed at immediate public subscription—partly due to demoralized market conditions.

Investment bankers underwriting the securities were stuck initially with about half of each issue. American's debentures are now quoted around 92 as contrasted with the original offering price of 100. The preferred is now available around 73 as contrasted with an initial public price of 102.

Hardships Are Awaft.—American's earnings are, of course, the answer to the relatively far better market record of its senior securities. The company based out of the end in June, 1946, and has shown an operating profit for the month since. A consistent earnings trend has been in evidence since 1939 and has even American considerable credit standing. Investment circles believe, that after a power period of market digestion, the American debentures may attain the quality of "money rate" bonds.

An interesting contrast is afforded with the American convertible preferred selling at the same price level as that of the PCA debentures. The preferred in convertible into common stock at \$30 per share. Shortly after its five-dollar sale, the new common stock sold as high as 18½. In the general market decline of several months, the common sold below 16, and is currently at that level.

It is likely that the price of American's preferred will closely parallel the market action of the company's common stock.

TWA's action in obtaining a \$30

million credit from the Equitable Life Assurance Society of American last December, was hailed as marking a new chapter in airline financing. This airline credit has long since been taken up. Annual debentures, carrying a 3 percent annual interest rate were issued with a two-year maturity.

A few months later, a series of sinking fund debentures were taken up by the same insurance company. This time, \$18 million were issued carrying a 3½ percent coupon and having a five-year maturity. With the grounding at the Constitution and subsequent riot strike, TWA deficit is mounting at a rapid rate. Further, the company's financial position has been weakened considerably. Probably, the company is in need of bolstering its capital but may find it difficult to do so.

TWA Problem.—The \$40 million in debentures currently outstanding makes it impossible to sell additional securities without devaluing the funded debt. With the Hughes Tool Co. owning about 47 percent of the total capital stock, additional capital may be provided from this country's stockholders.

In addition to the TWA debentures, the Equitable Life Assurance Society is known to have acquired \$18 million of the American debentures at the original offering price of 100 and it is reported to have followed through with another \$19 million purchase at slightly lower prices. Thus, Equitable owns 129 million or half of the American debenture issue.

Other airlines have resorted to various types of bank credit. The most outstanding is the short-term standby bank credit of \$40 million arranged by Pan American Airways. This credit carries a 1½ percent interest rate and has an extensive number of banks participating in the loan.

Banks Rejoice.—With the decline in prices of airline securities, financial institutions may be somewhat nervous as to the state of their credits to the industry but have little cause to become frantic. The air carriers have a priceless asset—a franchise. This franchise, known as a certificate of public convenience and necessity issued by the Civil Aeronautics Board, permits a carrier to transport persons, property and mail over a "right-of-way" in the sky. However specific conditions in that certificate that makes an unsecured credit to an airline a good risk in the eyes of a fiduciary institution.

Joint Conference Will Study New Air Safety Requirements

CAA, CAB and industry representatives will meet in Washington on proposed 150-hour accelerated service tests for new models.

Still embattled with the possibility of halting complete safety into current, CAB and CAA officials, and late this month will meet with manufacturers' and other aviation representatives in Washington to discuss a proposed new requirement that new plane types be subjected to accelerated service tests, in addition to proving airworthiness tests, before being certified.

It is proposed that transport aircraft be put through 120 hours of tests, and personal month 160 hours in altitude in its own operational "logs" before the aircraft pass on to climate them. As previously planned, the Washington conference will include representatives from the Aircraft Industries Association, Air Transport Association, Aircraft Owners and Pilots Association and, possibly, Air Line Pilots Association.

Method Undermined.—Just how the requirement would be satisfied, and whether it has not been denied by CAA's Safety Bureau, which circulated its draft at request of CAA to the industry. Bureau officials declare they have not yet determined whether it should be part of the Civil Air Regulations, or merely included in CAA's regulatory manuals. This question, as well as what the testing will include, is expected to come up at the meeting.

Recognition of the requirement, which was proposed last July, has already been indicated by AIA executive director John W. P. Morgan in a letter to the Safety Bureau in an attachment to his letter. Morgan submitted an industry carrier-prepared.

"The aircraft industry recommends that, in lieu of the proposed accelerated service test regulations, full consideration be given to the merits and advantages of safety systems utilizing the full cooperation of the manufacturers, oper-

ators, owners, and the CAA in a safety program based upon full reporting, efficient analysis, and appropriate action. Such proposed safety service systems are to be submitted to the CAA for review and approval in each case."

Industry Skeptical.—The industry, Morgan wrote, believes the proposed regulation "would not be practical or effective in achieving the desired objectives, and that it would, on the other hand, create an unnecessary regulation with many undesirable implications."

Morgan pointed suggested in the Safety Bureau that perhaps there were changes that could be made

in CAA procedures that would advance safety. He noted that CAA already has a system that could serve the same purpose as the accelerated service tests. That is the Structural Failure and Defect Report which CAA field inspectors are supposed to fill out and send to CAA Engineering offices when structural defects or failures are detected on aircraft in service. Then, again supposedly, the Engineering Office notifies the manufacturer so that remedial action may be taken.

"For some reason," Morgan observed, "the necessary interchange of data within CAA does not take place and the manufacturer usually does not receive notice of structural failures and defects that occur on his aircraft model, except when an owner contacts the factory directly."

De-emphasize Control.—Personal aircraft manufacturers in particular, according to Morgan's letter, are convinced that CAB and CAA can aid safety best "by assisting the manufacturers in the maximum utilization of available investigation data and by de-emphasizing the importance of CAA administrative control over the manufacturer's efforts of type cer-



C-46 WEIGHING IN:

Prior to CAA atmospheric flight tests, the first C-46 converted by United Service for Air, Inc., Buffalo, N. Y., was weighed on standard flight position to determine its center of gravity. The plane is being dated at a gross weight of 43,850 lb. United Service, when this plane is certificated, plans to convert several hundred for civilian airline operations.



AIRY DESIGN:

Neper aircraft engine company of England has developed this unusual hollow spacer to absorb counter air intake for cooling its 2,000 hp Sabre engine. Cooling was also obtained to reduce the propeller blades. Purpose was to increase the air intake area without increasing drag. (The Aero-Plane photo)

Insulates for new design

The attachment to Niagara's letter was a summation of the views of industry engineers on the proposed regulation. Significantly, it noted that fabric and matting-type covers are changeable to the original design but little relationship to the number of hours operated. During the first 10 or 15 hours of flight, testing the most common materials appear, according to the manufacturers. After that, no opinion is more critical than any other.

Bell Will Purchase Niagara Falls Plant

Bell Aircraft Corp. has notified War Assets Administration that it will purchase the plant it now occupies at Niagara Falls Airport. A purchase option is included in a five-year lease negotiated about two months ago. A spokesman said it might be only a matter of weeks before the company takes title to the plant.

Under the current lease, Bell reserved the right to purchase the plant for \$4,295,000, not including production machinery. About half the machinery in the plant is Government-owned.

Bell intends to use all or practically all of the plant's 1,000,000 square feet of factory space. Plans to share the space with others have been virtually shelved.

The company has 3500 employees

on its payroll but will add at least several hundred when production of helicopters is stepped up to "several a day" after January 1, a spokesman said.

New Fibreglass Wing Is Tested by AAF

All-glass plane planned as result of successful fuselage design and wing tests run at Wright Field

An experimental project that is being watched closely by designers of supersonic aircraft has gained another hurdle at Wright Field and is approaching final tests. An all-fiberglass wing outstanding for its smoothness has completed static tests, withstanding 105% of AAF strength test requirements, and will be fitted to a fiberglass fuselage that has already been proved by flight tests.

Development of a fiberglass plane began in 1941. The fuselage was constructed first and proved 50% stronger as strength-weight ratio than an ordinary metal fuselage. Since, it has had 400 hours of flight time, including considerable in Arctic regions in the winter.

The material is composed 55% of glass fiber supplied by Owens Corning Glass Co. and 45% of resin furnished by the Plastics Division of Libby-Owens-Ford Glass Co. Fiberglass cloth is impregnated with Plaston resin "911" in a single semi-automatic coating machine. Layers of this are laid in a mold conforming to the finished contour of the wing.

Lightweight cellular outboard section strips are wrapped with a

Spanish Want Planes

Two Spanish airlines are interested in buying small transport planes, according to Generalissimo Department reports from the American Embassy, Havana-Toluca, S. A., and its affiliate, Cifsa, are in the market for four 4-6 passenger single-engine planes of 250-400 hp, and two 6-8 passenger multi-engine with two engines of 300-400 hp, each.

The Spanish government recently authorized establishment of foreign air services. Hispano-Tyrolina and Cifsa are two of the companies planning to enter that field if equipment can be obtained. British manufacturers already have been studying the market.

U. S. manufacturers interested should inquire of Don Manuel P. Fernandez, Director General, Havana-Toluca, S. A., Legation 22 and 25, Madrid, Spain.

thin layer of glass cloth to form a core of sandwich construction. Additional sheets of the impregnated glass cloth are laid over the core to complete the sandwich. Heat and pressure are then applied. The result is a wing with an intense choice of ribs and cross-bracing, and an exterior free of rivets or other protrusions.

As Material Command engineers who developed the wing emphasize, the core with which repairs can be made. A fiberglass patch can be applied to a damaged wing to match the same number as a tire is vulcanized.



Smooth As Glass: Setting finish on an experimental glass-fibre wing is being examined by Wright Field project engineer Major G. B. Rheingruber (left) and Capt Wayne A. Norman. The wing is constructed entirely of the new material that holds great promise for use in supersonic aircraft. The wing extends to strength AAF requirements (AAF photo)

Convair Reports Net Loss of \$1,793,883

Consolidated Vultee Aircraft Corp. announced a net of \$1,793,883 on sales of \$9,963,325 for the first nine months of the current fiscal year. This is after crediting \$2,416,522 in refunds under corporate provisions of the tax laws.

Three factors for the nine months ending Aug. 31 include changes in the cost of current experimental and development work. Bright spot in the picture, however, is that the sales do not reflect about \$21,500,000 expended to date, and fees earned on cost-plus-fixed-fee contracts on work not delivered by that date.

Most of these costs is involved with the giant X-45 bomber on which Convair is presently working for the Army, the outlook for a healthy profit for the entire fiscal year, ending Nov. 30, should be promising. Company policy is to include such and loss in sales only upon delivery of the products involved. Recent estimates of the AAF indicate a chance that the first X-45 might be delivered before the end of Convair's fiscal year.

Company's backlog showed an available jump. At the end of fiscal 1945, it was \$228,610,000, and as of Aug. 31 was up to \$448,135,000. Although industry leaders usually are taking a low view of backlog as an index of financial health—because of the present difficulties in delivery and the consequent drain upon working capital—the greater portion of the Convair backlog is believed to be made up of the AAF's order for 100 B-36's. Inasmuch as AAF makes little secret of the fact that the B-36 will be a major component of its strike force, Convair's backlog is regarded as sound.

For the nine-month period, Consolidated Vultee's parent, The Aviaton Corporation, reports a sizable profit of \$15,145,025, or \$2.12 per share on 5,987,150 common shares. For the corresponding period of the 1944 fiscal period, profit was \$2,158,120, or 37 cents per common share.

Key to the Aviaton profit was the CAA-ordered sale of American Airlines stock which yielded \$12,718,000 after taxes. American \$450,000 was carry-back tax credit. Actual profit on sales of \$5,000,000 was about \$1,700.



MODEL 42 CONSTRUCTION:

One of approximately a dozen Model 42 five-place biplanes being built by Bell Aircraft Corp. at its Niagara Falls plant. Several of these craft have been completed and test flown. Cabin seating arrangement provides for pilot and co-pilot side-by-side in the front and three passengers abreast in the rear. (Martin & Kettner photo)

Hydromatic Prop Ordered for 303s

An order for 350 new type reversing Hydromatic propellers and accessories has been received by Hamilton Standard Propellers Division of United Aircraft Corporation from the Glenn H. Curtiss Company. The propellers will equip Martin's new transport, the 303.



RESEARCH AGREEMENT:

James S. McDonnell (right), president of McDonnell Aircraft Corp., and Dr. Andrew Hally, Cavendish professor of Washington University, St. Louis, sign the agreement under which the university will undertake a large-scale research project in cooperation with the company (AVIATION NEWS, Oct. 26).

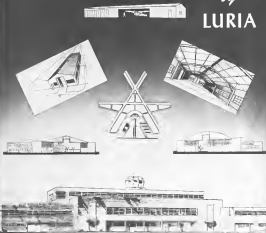
Honeywell Headquarters

Minneapolis-Honeywell Regulator Co. has opened new and enlarged headquarters in Los Angeles at 3080 East Olympic Boulevard. All divisions of the company, including its aeronautical branch, will be housed there. In the past 18 months, the Los Angeles staff has been expanded from 17 to 34.

AIRPORT BUILDINGS

by

LURIA



Write for booklet of complete line

LURIA ENGINEERING CORPORATION
ENGINEERS and CONSTRUCTORS

CHICAGO OFFICE
First National Bank Bldg.
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NEW YORK OFFICE
300 Fifth Avenue
New York 10, N.Y.

SPECIAL AIR SERVICES

CHARTER NONSCHEDULED INTRASTATE

CAB Streamlines Violation Procedure

Propose conference between airlines cited in "show-case" action and Board attorney in place of formal hearings

One or more of the five unauthorized carriers recently cited for allegedly conducting scheduled operations in violation of the Civil Aeronautics Act may take advantage of a new and abbreviated CAB procedure to settle their difficulties with the Board.

Letters suggesting the short-cut for handling cases involving the show-case carrier issued last month were prepared by the chief of the Enforcement and Legislation Section of CAB's General Counsel's office. They were sent to American Air Report and Report Co., Caribe Airways, Texas Air Lines, Trans-Luxury Airlines and Trans-Caribbean Air Cargo Lines, the carriers concerned (AVIATION NEWS, Oct. 25).

CAB Red Tape—Under the proposed procedure, the lengthy administrative process of producing, preparation of exhibits, formal hearing, examiner's report, briefs and oral argument would be eliminated. Instead, a CAB attorney would meet with company officials and attempt to work out a plan whereby the carrier would adjust its operations to meet all requirements of the Civil Aeronautics Act, including the nonscheduled exemption.

An agreed-upon statement of facts surrounding the case, together with the proposed plan for future operations, would be submitted directly to the Board for approval.

Meanwhile, at least one of the operators cited was reported anonymously informed over the effect of extraneous newspaper stories dealing with the show-case action. One published and widely-circulated version stated that the carriers had been "grounded" by CAB. Another cited the two accidents involving Trans-Luxury planes, suggesting that a safety issue also was involved in the Board's action

against the unauthorized operators.

Other industry developments

Winnipeg Airlines, Ltd., passenger division of Winnipeg Jets, Inc., plans to begin flying money orders from there to 50 other destinations in place of cash orders before the week. Plans of a series of flights for the Department of Justice carried by Air Canada from Montreal to 20 airports to their service areas in this country and 10 others were said to be held here until recent completion of renovations.

Western Airlines, New York, planned to introduce new service between Los Angeles and Buffalo. Eastern Airlines and Western Airlines had been discussing this last week.

Frontier Air Freight, Inc., Philadelphia, is reportedly set to fly to Chicago, president of the company, has been named to head the Philadelphia Airlines Service. The carrier's latest DC-8s have been named.

Calair Service, New York, has started direct service from New York to Chicago and St. Louis. Company says packages under 200 lb. to New York and Chicago from the Midwest will be handled by the Midwest Airlines, Inc. (AVIATION NEWS, Oct. 25).

Caribe Airways, Texas Air Lines, has 100 passengers 10,000 passengers and 100 to 100 cargo during June and July using C-47s. 200 passengers. Company reported daily service between Albany and Atlanta, via Columbia and has been planning extension to include Tampa, Miami, Houston and other

cities in the vicinity of its route. W. H. Hall, president, also reported.

Florida Airlines, Inc., Orlando, Fla., has 200 revenue passengers 10,000 revenue passengers since June 1961 and 100,000 passengers since June 1961, according to President T. J. Hendry. The licensee carrier operated for American Overseas from Orlando to Jacksonville, St. Cloud and Gainesville.

West Airways, New Orleans, has 200 flights in service. The 200 flights of the carrier 10,000 passengers and 100,000 passengers since June 1961 and 100,000 passengers since June 1961, according to President T. J. Hendry. The licensee carrier operated for American Overseas from Orlando to Jacksonville, St. Cloud and Gainesville.

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TEXAS PAPERS SPED BY AIR

Passenger in large-scale distribution of newspapers by plane, Airways, Inc., is using four Mooneyhamer transporters based at Alamo Field to fly the San Antonio Evening News to Corpus Christi, Laredo, Brownsville and other South Texas communities. The carrier is a wholly-owned subsidiary of the Express Publishing Co., which prints the Evening News. Airways plans extensive development of contract freight to supplement its newspaper distribution and will emphasize booklets to San Antonio. Inland products will include fresh shrimp from Corpus Christi and fruit products and vegetables from Rio Grande valley ports, but freight will remain secondary to newspaper distribution. Airways is an applicant in CAB's airfreight case dealing with carriers to fly both mail and cargo as a common carrier.

1 **United Air Service, Inc.**, Indianapolis, Ind., has named CAPT Joe A. Hoffmann as its new president. Hoffmann is a 1950 graduate of the University of Southern California and has been in the airline industry since 1952. He was previously vice president of the company and has been in charge of the company's operations since 1960. Hoffmann is a member of the National Aeronautics Association and the American Society of Aeronautics and Astronautics. He is also a member of the Indianapolis Chapter of the National Aeronautics Association. Hoffmann is a graduate of the University of Southern California and has been in the airline industry since 1952. He was previously vice president of the company and has been in charge of the company's operations since 1960. Hoffmann is a member of the National Aeronautics Association and the American Society of Aeronautics and Astronautics. He is also a member of the Indianapolis Chapter of the National Aeronautics Association.

Skycruise Business Attracting Operators

Two carriers ask CAB for new type certificate to cover seasonal routes and commuter traffic.

Rising interest of fixed-base operators in scheduled but unconventional passenger services which do not involve carriage of mail is exemplified by two certificate ap-

Avocados Set Record

One unfertilized carrier—Air Cargo Transport Corp., New York—and a single commodity, the avocado, have combined to boost total volume of U. S. air imports to record heights during July and August.

Census Bureau statistics show that Cuban avocados, flown principally through Miami, accounted for 334,117 lb, or 63 percent of all July imports. In August, 843,094 lb. of the highly-prizeable fruit entered the country—58 percent of all imports. ADU says in the summer con-

Alacritas filed recently with CAB. Robert Airlines, Inc., Pittsburgh, N.C., is seeking authorization to carry passengers and baggage only on all-engine variation tours over eight different routes to the Caribbean, Central and South America. Long Island Airlines, Inc., Southampton, N. Y., has asked permission to fly passengers and property between New York and Washington, D.C., New York and Boston, Mass., and New York and Albany using water courses adjacent to each route point for all landings by its amphibious aircraft.

Vacation Pioneer—A pioneer in vacation air tours, which it conducted last summer with DC-3s, Resort would sell only roundtrip transportation on its "skyscrapers." The ticket would include hotel ac-

Two of the eight skytrains would originate at New York, two at Chicago, one at Los Angeles and three at Miami. Skytrain No. 2A, one of the most extensive tours and a year-round service, would originate at New York, stop

to the new ports: Venezuela and Washington, and continue to report stops at the Bahamas, Dominican Republic, Haiti, Puerto Rico, Virgin Islands, Antigua, Martinique, Trinidad, Venezuela, Caracas, Jamaica and Cuba.

► **Seasonal Run:** By contrast, skymove No. 6A would operate only between Dec. 1 and May 1, would originate traffic only at its terminal, Miami, and would have but two resort stops—Nassau, Bahamas, and Havana. Resort car-



FLIGHT TO IRAN:

Three and one-half tons of urgently-needed penicillin valued at \$108,000 were flown recently to Toluca, Mex., by Shipways International, Miami. Part of the shipment is shown being loaded on a company C-68 Commando which made the trip to the Mexican capital on the South Atlantic, Caribbean and Core Shipways line only to foreign territory, principally Central and South America where it has operated 1,000,000 miles during the past year.

templates using DC-3a and DC-6a and 44 percent own fear of the former and two of the latter.

Long Island Airlines would use 12-passenger Grumman Mallards on its proposed amphibious service out of New York City. Lohr, Resort, the carrier has had considerable experience with the type of operation contemplated—having flown an intrastate route between Malibu Shores (32nd St. and East River, N. Y. C.) and three Long Island communities. From July 12 to Oct. 12, 4,699 passengers were carried in four Grumman Mallards, and 600,000 passengers.

Taken as an example the proposed New York-Albany run, which would stop at Poughkeepsie and Newburgh, the applicant has to time and coordinate the service to operate. At present, President Roger Graves, chairman, a Newburgh man, says it would take New York to Albany to plane speeds 30 minutes at the air and approximately 1 1/2 to 20 on the ground, depending on the weather, and from airports. The cost of surface connecting service is \$2.50. By use of amphibious landing on water resources.

TRANSPORT

TWA-ALPA Settlement Hangs Fire As Pilots Refuse to Sign

Pilots association submits new arbitration agreement to its Chicago headquarters; object to flat monthly pay revision.

By MERLIN MICKEL

The TWA pilot strike lagged toward settlement last week, but developments indicated that it will be this week before both parties, tired of the dispute, agree to submit their disagreement to an arbitrator's board.

Twice it appeared that the strike would end — reporters held a death watch¹ meaning word that was used in the 19th century. The strike was delayed. On Monday, the Air Line Pilots Association announced acceptance of an arbitration agreement called CTA 21. Tuesday night, TWU agreed to arbitrate. But something new had been added, and ALPA refused to sign the agreement. TWU threatened to arbitrate.

While the focal point of the dispute remained the question of pilot and co-pilot pay on four-engine equipment, the immediate obstacle to the issue of agreement to activate the new provision, suggested by the company, was that would require the arbitration board to fix a flat monthly pay for pilots and co-pilots on an overvalued route as an alternative to the complex hours-based formula used in operating domestic routes pay.

Initial Deal Approves Concerning ALPSA, this was just the first of several steps. The next was to get the chairman, Washington attorney for the association, and a copy of the first document, to ALPSA president David L. Bohneke in Chicago, where it was to be submitted to a weekly executive meeting and central executive review. The first of these was scheduled for mid-July.

Arbitration proceedings will start in Chicago, if the agreement is signed, within 21 days from date of selection of the neutral arbitrator.

The later arbitration proposal was signed in the presence of

(two days rebuttal, followed by half a day to argue. The board's award, to be made within five days after the end of the hearing, will remain in effect for one year from Dec. 31, 1987.

3:30-Hour Lag—Rachter estimated that 35 hours would elapse after the strike was called off before TWA could resume partial operation. Both transcontinental and international flights would start about the same time, the former simultaneously from New York and Los Angeles, the latter from New York and possibly European or African ports.

Most of TWA's 13,000 other employees, laid off shortly after the 1,450 pilots began these strikes Oct. 31, will be called back to work once Jack Frye, TWA president, ends the strike, which has caused an estimated loss to the company of \$2,000,000 a week (\$900,000 a day), and the workload has hurt the carrier "to an extent we cannot immediately discern." There is a strong likelihood that because of the severe financial loss we were suffered, it will be impossible for us to re-

Arbitration Points

Questions involved in the arbitration submitted by the National Mediation Board to TWA and its striking pilots involve the following:

- First pilot's and captain's pay on Skylanders and Condorlines in domestic and international operations.
 - Monthly allowance for pilot and captain in international operations. Differential for competent and experienced pilots.
 - Bonus and quarterly monthly compensation for pilots and captains based on load factor of aircraft.
 - Rates involving line expenses, expenses for maintenance, expenses benefits, workers' compensation benefits, medical, dental and injury benefits, international operations, sleeping quarters, recreation, food, transportation and hotel expenses.
 - Provisional for members for settlement of pending unsettled claims and for claims not being followed by service adjustment board.
- For starting payment of board determined by the award.

He suggested that employees who have obtained temporary jobs elsewhere during the strike check with their TWA supervisors before giving them up or reporting back to work.

TWA's nonrecognition of eight Constellation and 17 Constellation DC-6s, by company estimate will mean the discharge of 350 to 360 pilots who were on the payroll in training for those planes, and who struck with the rest. ALPA has announced its membership the equivalent of 10 percent of salaries to pay striking pilots and employees at the rate of \$350 and \$250 per month respectively. Included in strike benefits are the payment the company says it cannot take back.

Examiner Frowns On Northern Route

Possibility that a third trunkline will be established between Chicago and Seattle to compete with Northwest Airlines and United Air Lines faded last week when CAB Examiner Herbert E. Bryan recommended against certification of the through services sought by Western Air Lines and Great Northern Airlines.

In a second part of his Chicago-Seattle route case report, Bryan asked the Board to approve application by Duluth Airlines, Inc., Duluth, Minn., for a new feeder agreement between Chicago and Duluth, N.D., via numerous airports in Wisconsin, Minnesota and Iowa. Local agreements somewhat similar to three were recommended for other carriers in the North Central



FIRST OF TEN:

First of 10 DC-3s newly acquired by Zende Aeronaves de Argentina in Buenos Aires is put on display from Air Associates, Inc., at Teheran, N. J., which is outfitting the fleet. Zende is scheduled to operate in the west and south sections of Argentina.



KLM RECEIVES CONSTELLATION:

Recently delivered to KLM, Royal Dutch airline, this Lockheed Constellation was photographed at its New York terminal at LaGuardia Field. (Morris & Kohnen photo)

case examiner's report, Bryan noted, adding that if such routes should be certificated by CAB first there would be no need for additional service by Duluth.

Application by G.I. Airlines, Minneapolis, for a night and day mail pickup service in Wisconsin, Illinois, Michigan, Minnesota and Iowa should be disregarded in view of the high costs involved, Bryan stated.

Air Groups Begin Work On New Type Agreement

Work has started both in the Air Transport Committee of the Provisional International Civil Aviation Organization in Montreal and in the Air Coordinating Committee in Washington on the development of a multilateral air transport agreement to be submitted to the next PICAO assembly.

Acceptance of such an agreement will mean that the bilateral pact now in force between nations will be expanded by one multilateral agreement providing standards for conducting international air transport operations. Officials consider it too early to tell what form the new draft may take, but indications are that the practicability of adopting the Bernards agreement as a multilateral basis will be studied closely in both committees.

Panam Gets Support From Cities to Be Served

The 12 U.S. cities which Pan American Airways hopes to link with high speed overseas service were to appear in support of the proposed line last week as CAB began hearings at Atlantic City on the international carrier's domestic route application. The cities, all now terminals on PAA's overseas

routes, are Baltimore, Boston, Chicago, Detroit, Houston, Los Angeles, Miami, New York, New Orleans, Philadelphia, San Francisco, Seattle and Washington.

In a news conference two days before the hearings got underway, John C. Loefer, PAA vice president, said his company plans to use 25 Boeing Stratofortresses and 11 Republic Rainbows in the domestic operation if it is certificated. First Stratofortresses are to be delivered next June and the first Rainbows by the end of November, 1952.

Freight Forwarder Case Will Be Split

CAR's freight forwarder case has become the largest proceeding in Board history, and steps are being taken to prevent its growth to unwieldy proportions. Now under consideration is an examiner's recommendation that the case be split into two proceedings running concurrently—one including domestic applications and the other foreign and overseas bids.

Possibility that hearings should be scheduled in different sections of the country because of the proceeding's size is also being investigated. By last week, 43 companies and 49 different applications for freight forwarding services on file with the Board. They include bids for domestic scheduled, domestic nonscheduled, foreign scheduled and foreign nonscheduled operations.

The examiner has emphasized to all parties that freight forwarding is a field in which CAB has no established policies or regulatory practices. Consequently, he said, it will be proper for applicants to include in their exhibits suggestions and proposals as the marine CAB should follow in dealing with freight forwarders.

Improved Air Pickup Installed by Beech

Improvements in air pickup units installed by all American Airlines in its new Beechcraft D-18Cs, designed for conventional passenger and pickup use, have permitted CAA certification for heavier pickup loads than were allowed with former equipment in the line's piston Belts.

Maximums for the Beechcraft, on which external pickup speed is 170-185 mph, are 100 lb. at 130 mph, 80 lb. at 175 mph, and 60 lb. at 300 mph. For the Stinson, with cruising speed of 135 mph, they are 80 lb. at that speed, 50 lb. at 135 mph, 70 lb. at 145 mph, and 60 lb. at 150 mph.

Recently the pickup unit is the same as that the carrier has used for over four years. A major change in the carrying in the Beechcraft, in which the wheel mechanism is installed just the cabin ceiling over the hatch, instead of on the floor forward of it. Prior to the pickup unit has been moved to an extreme forward position on the plane, making it more accessible. Delivery problems created by the higher speed of the new planes have resulted in improvements in methods of equipment used to express cargo containers. Redefined and pneumatic controls have related to a minimum the physical effort required of pilot and pickup operator.



How It Works: Flight Mechanic Verne Yenkelster explains operation of the air pickup used on one of All American Airlines' new Beechcraft D-18Cs to Gael Sullivan, Second Assistant Postmaster General (left).

The Douglas DC-6 that will be received by the Army some time next Spring as a successor to the DC-4 "Barred Gun" used by the President and other high Government officials will be much the same as any similar airline plane.

Second equipment, including a elevator, that adds 6,000 lb. to the normal weight of the present plane will be stored. Like other DC-6s, Army sources say, the new unit will have two sections, with a galley between them. The aircraft will be used for the President. Other differences are that the plane will have a pressurized cabin, and sleeping accommodations.

A special announcement on the ship, which probably will be the

newest of the Douglas DC-6 line, likely will be issued before long by the Army. Plan is to stress the fact that the second DC-6 has been used since the time by other officials than the President, since there is some feeling that the public has the impression the plane always goes to the President's bidding. Of more than 300,000 miles logged on the present ship, only about 10,000 have been on Presidential flights.

Army sources say that the White House did not order the new plane a fast decision under the present use. Army did, since it considers it as important to keep up with transport plane developments with leaders and leaders.

Seek Extension of Air Travel Insurance Period

Hopes that insurance coverage for scheduled airline passengers will be extended to 14 days by the end of 1957 was expressed by Stuart Tapkin, Air Transport Association counsel, at an American Bar Association meeting recently.

Coverage of \$5,000 for 30 days purchasable at ticket counters now extends beyond the previous 24 hrs. to completion of a one-way or open-jaw trip, if not longer than seven days. Tapkin and associates were in progress to carry it further to cover single and round trips completed in 30 days or as a year if non-refundable.

When coverage is extended to 30 days, he explained, the amount of insurance available will go up to \$10,000 per passenger. Premium rate will be 25 cents per \$1,000 on domestic trips. On international trips, the charge will be based on the airline fare.

Briefing Booklet

An "Itinerary" prospective trans-Atlantic passengers will receive a booklet distributed by its travel agents, containing information on passports, baggage, fares, reservations and other details. The carrier operates three flights weekly each way between Paris and New York.

Denver Air School

Denver University's air school now has 175 students, about half of them women. The men gen-

erally are taking courses in airline management. The women are studying to be hostesses, traffic representatives and personnel workers. Marilyn M. McLaughlin, Denver's assistant director of the center, and Max Houchens as its co-director.

Route Consolidations

Citing the improved service and operational and administrative economies that would result, CAB Examiner J. Earl Cox last week asked the Board to approve, in part, a consolidation of scheduled routes of Eastern Air Lines and Delta Air Lines. Cox recommended that Eastern's AM 10 and 48, and segments of AM 47 and 6, be consolidated in a single route, and that Delta's AM 24 and segments of AM 28 be consolidated into one route.

Belgian Airline Service To Start in March

Belgium will open scheduled trans-Atlantic service next March with three roundtrips weekly, the New York office announced, at the same time stating it will move to 425 Madison Ave., also about March.

The Belgian airline, which had been operating special flights from Europe until the crash of its DC-4 at Gander, will use DC-6s, three of which are ordered, if delivery is in time. Otherwise, service will be DC-4s with the three remaining DC-6s.

Travel Forecast

Airline travel advancement in the next few years will be less radical than that in travel by rail, predicts W. P. Burke, passenger traffic manager of the Pullman Co., although he acknowledges that the pace of the airlines in the third business will increase in comparison.

Burke spoke last week before the American Association of Railroad Travel Agents at Chicago, where he said that the airlines' share of interstate travel business will come largely from expansion rather than crowding into first class rail business.

He forecast that the railroads would expand their share of the total business, and noted improvements made and planned by Pullman and the railroads in making that travel actually will be advanced more radically in the next few years than airline travel.

aircraft on order and three DC-10s as haul, company operates 23 transporters including DC-10s and Lockheed which are used in European and African services.

Mid-Continent Shows Net Profit of \$414,393

Increased profits reported by Mid-Continent Airlines reveal the optimistic observation made by CAA when the Board turned down the American Airlines-MCA merger plan a month ago (AVIATION NEWS, Oct. 7). The Board said it hoped MCA might prove economically sound, and suggested that attention to its development be from a lower range point of view "in an operating activity rather than a speculative one."

The carrier showed a \$414,393 net profit before income taxes for the first nine months of this year, the equivalent of \$1.06 per share on 398,368 shares of common stock outstanding. The comparative figure for the same period of 1945

was \$184,377, or 51 cents per share. For the first three quarters of 1946, net profit after taxes was \$335,901, or 81 cents per share, compared to a net of \$111,376, or 28 cents per share a year ago.

Operating revenue reported by the first nine months of this year was \$3,623,721, 65 percent over the same period of 1945. Revenue under lease to 18 percent from \$2,772,984 to \$3,783,156, while passengers carried increased 18 percent from 163,976 to 453,845.

Other comparisons between the nine months ended Sept. 30, 1946, and the similar period last year: operating efficiency, 84 and 96 percent; capacity passenger miles flown, 71,356,481 and 70,888,625; revenue passenger miles flown, 11,055,665 and 11,799,045; passenger load factor, 75 and 73 percent; mail and express ton, 778 and 635; mail and express ton miles, 247,294 and 254,389.

Examiners Urge New Feederlines

Recommendations that CAA certificate approximately 5,100 miles of new feeder routes in 13 mid-western, south central and Great Plains states and that the Board deny almost all bids by presently operating airlines to expand in the region highlighted the recently issued examiner report in the Mississippi Valley case.

Local operations favored by Examiners Ferdinand D. Marx and James B. Keith, Jr., among the applicants of 21 unidentified companies were: West Central Airlines, Inc., Houston, Tex., 1,335 route miles between Homestead, N.D., and Amarillo, Tex.; Central Air Lines, Inc., Springfield, Mo., 1,335 route miles between St. Louis, Kansas City and Tulsa, Okla.; Gulfair, Elkhart & Beach, Meridian, Miss., 908 route miles between Memphis and New Orleans; Parks Air Transport, Inc., East St. Louis, Ill., 1,909 route miles between St. Louis and Memphis and between St. Louis and Mobile, Ill.; and South Central Air Transport, Inc., Fort Worth, Ark., 445 route miles between Tulsa and Memphis.

The SCAT route was recommended only on the condition that the company is granted sufficient other links with Texas-Gulfairways, in a contract to handle feeder operations. Parks' Mississippi Valley routes would connect at St. Louis and Mobile with other links recommended for the company in

the Great Lakes and North Central areas cases.

Applications which the commission may should be denied included route extension bids by Brazil (Houston-New Orleans and Memphis or Little Rock-Dallas), Chicago and Southern (Memphis-New Orleans, Memphis-Shreveport, Little Rock-Fort Worth, Memphis-Tomball, New Orleans-San Antonio, and New Orleans-Brownsville); Continental (Kansas City-Chicago, and Kansas City-St. Louis); Eastern (St. Louis-Kansas City, Memphis-Corpus Christi, and Little Rock-Fort Worth); Frontier (Houston-New Orleans); Mid-Continental (Kansas City-Chicago, Kansas City-St. Louis, and Shreveport-Houston); and National (New Orleans-Dallas-Fort Worth, and New Orleans-San Antonio).

New trunkline route proposals recommended were Eastern (AM 3) Galveston, Tex., and Lafayette-New Bern, La.; Delta (AM 34) Little Rock-Savannah, Tex., and Chicago and Southern (AM 34) Hot Springs and El Dorado, Ark.

U. S. - Philippine Air Pact Is Nearing Completion

Brief draft of an international air transport agreement between the U.S. and the Philippine Re-

Connie Oeder

Possibility that Lockheed's TWA-36's completed. Connell's order was seen by the company with two of the planes already sold to LAA, Vancouver, Canada, after TWA has ordered a total of 49 of the craft and 39 had been delivered. Connell's order for eight lowers a balance of 32, which may be reduced further. The craft were compared or against competition when the plane tried to force the cancellation. Little difficulty was anticipated at Burbank in disposing of the other six.

public has been completed and initiated by representatives of the two countries who have been working out details for several months, the U.S. Embassy at Manila, announced last week.

The pact includes provision for the five freedoms and places no artificial limitations on the frequency or capacity of flights. At present, the U.S. has no commercial airlines operating to the Philippines except on a charter basis. Pan American Airways recently suspended its Manila service temporarily because of inadequate communications and navigational facilities in the Pacific Northwest.



On accident on the Copenhagen Ferry line near Copenhagen was blamed on a break in a fuel line. Fire resulted in failure of a wing support and the wing fell off while the craft was preparing to land. The plane had made one return to Copenhagen following a magazine breakdown. The magazine was replaced, and the plane took off again under normal conditions.

Airlines expected to begin service to Manila early next year on its recently-authorized Great Circle route through the Alaskan, Japan and China.

The Philippine Republic has two river services—The Eastern Air Transport, Inc., and Philippine Air Lines. Both use U.S. equipment and American pilots. Following installation of the treaty, was started to make its first flight to the U.S. starting Nov. 7, under Philippine government charter. Stops were planned at Kansas, New Orleans, and Honolulu.

Air France Accidents

Due to Fuel Break, Engine

(McGraw-Hill World News)

Paris—Two Air France accidents which cost 32 lives in 48 hrs. early in September were due respectively to loss of power at cockpit and to engine failure in flight. Both planes were DC-4s.

Official investigations found that a mishap at Le Bourget field which caused 33 fatalities occurred when the port engine on the London-bound plane slowed suddenly as the craft left the ground. Cause of the power loss was not determined. The pilot accelerated the starboard engine and the plane tipped to the left. Quin accelerated the left engine and the plane struck a house. Six survived.

An accident on the Copenhagen Ferry line near Copenhagen was blamed on a break in a fuel line. Fire resulted in failure of a wing support and the wing fell off while the craft was preparing to land. The plane had made one return to Copenhagen following a magazine breakdown. The magazine was replaced, and the plane took off again under normal conditions.

SHORTLINES

►BAC Consolidations flying between New York and London are prevented once again. Pro-airline was discontinued June 25 until cancellations could be made to the supercharger pressurization system.

►Continental's freight ton miles record exposed last miles for the first time in July, when the figure for freight was 4,424 compared with 4,205 for express. Air freight had increased in 1946, according to John A. Smith, senior sales manager. Success of the service is attributed partly to daily mail order shipments by Sears, Roebuck and Co. from Kansas City to Colorado.

►Empire Air Lines has been added



RESERVATIONS OFFICE PATTERN:

United Air Lines has decided to incorporate in all its major reservations offices new procedures that are credited with increasing by 260 percent the capacity of its Chicago office (shown above) to handle incoming calls for space. The system which is or will be installed at eight other points involves changes in office layout, specialization of agents' duties and new mechanical equipment, including a continuous belt to carry reservation cards and other records to control passengers handling specific flights and an "availability board" with at-a-glance information on all flights 21 days in advance. This board (far wall) is said to permit reservation of 15 percent of available space on any flight without reference to control charts.

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8 **Harmonized daily passenger sched-**
ules among the six major airlines of
the world have become a reality. The re-
sult that despite passenger in-
creases the load factor dropped from
64 percent in January to 74 in Sep-
tember. Average for the first three
quarters of this year was 66 percent.
The number of available seats for the
same months of last year was 19,819,150
against 17,904,098 for the same pe-
riod last year. Other similar com-
parisons: revenue passenger miles
down, 33,077,494 and 36,261,321 pas-
senger plane miles, 1,365,484 and
1,465,484. The number of aircraft
and 114,636, 1,702,131 lb. of air-
cargo was carried by these airlines
the third quarter of this year.
12 percent over the same period of
last year. The last two DC-10's
fighters and will add two new

► Scandinavian Airlines system has opened offices at Minneapolis in the Nord Tower Building. E. L. Tvoten is the manager for the northwest district.

A well established, nationally known criminal organization has operations headquartered, apparently, outside the U.S. in the Caribbean. The organization is active in the U.S. in the areas of drug trafficking, money laundering, and other criminal activities. The organization is active in the U.S. in the areas of drug trafficking, money laundering, and other criminal activities.

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MFG'S TECHNICAL
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1985, Ball Bridge Engineers completed a structural steel reinforcement design contract for the widening of the bridge at each end of a four to six mile stretch across Iowa. The main objective is the closure of a major traffic corridor on National and International, through highway and Pedestrians. Ball also anticipates and will have in current work on additional steel work.

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621 S. Hope St., Los Angeles 94, Calif.

Comair will add DC-4s into Trans-Atlantic service that winter. First production model will be delivered that month, while the prototype continues to be used for testing and experimental services. Protected models will be built at Canadair Ltd., Montreal, for trans-continental service in Canada, and are planned consecutively for eastern main-stem service, then the Montreal-Newfoundland service, Montreal-Saskatoon, West Indian service, and lastly the Vancouver-Seaside and Los Angeles routes. TC Canada will add 12 DC-4s to its fleet in September, compared with 18 DC-3s in August.

TWA has established special sections in its contract and charter department to take care of conventions and exhibits and theatrical business. C. K. Walbert is sales supervisor of conventions, while Harold E. Knapp is sales supervisor—exhibits and theatricals. Both will office in Kansas City. . . TWA turned one of its airplanes into a giant rooster last month, carrying 60 students and instructors of a Westport, Kansas City, high school class on a vacation and three trips between Kansas City and Lawrence, Kan.

Western's revenue passenger miles for September were 25,234,937 compared with 21,653,465 in the same month of last year, an increase of 16.6 percent. September express Rs were 165,426, a 53 percent increase, while the 71,186,378 express Rs collected in September were more than double the same month in 1943.



United Air Lines estimates that the use, demonstrated above, of span glass cord instead of fiber in loosing the wiring harness of its two-way radio communications units will save \$60 man-hour a year at its Chicago maintenance base besides requiring less material. The glass cord, affected by heat and humidity, required frequent replacement.

1. Permitted Merchant Airlines to transport mail between New York, Newark and Springfield Mass., and between Springfield and Miami, N. H., on J.M. 11, and operate the Mailbox to serve Springfield, Bangor and Portsmouth, N. H., through agency use of West End Mailbox Agency, Colchester-Bangor Mailbox Agency and Portsmouth Mailbox Agency, respectively.

[illegible]

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Post 15. Publishing conference on Ethics in teaching. (Author) (Sponsoring Org.) Post agreement date (if any) (Country) (City) (State)	Jan. 1. Exchange of articles in Caribbean Africa. (Author) (Sponsoring Org.) Post agreement date (if any) (Country) (City) (State)
Post 16. Publishing conference on application of ethics and cultural for New York State. (Author) (Sponsoring Org.) Post agreement date (if any) (Country) (City) (State)	Jan. 21. Meeting on Caribbean studies in Africa. (Author) (Sponsoring Org.) Post agreement date (if any) (Country) (City) (State)
Post 17. Exchange of articles in foreign literature. (Author) (Sponsoring Org.) Post agreement date (if any) (Country) (City) (State)	Jan. 25. Meeting on Caribbean studies in Africa. (Author) (Sponsoring Org.) Post agreement date (if any) (Country) (City) (State)

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Contrast in Chambers of Commerce

Chambers of Commerce have perfected—if nothing else—the ability to make news, by press release. For home town citizens they prepare innumerable announcements which connote vigor, action and as far as indispensability. But their record of achievement for community and industry seldom approaches this paper standard.

Aviation News recently reported the action of the Pittsburgh Chamber of Commerce in urging the Civil Aeronautics Board to discourage newcomers in aviation, especially non-scheduled flying.

In bright contrast is the record of the Oakland, California, Chamber of Commerce, whose Aviation Division is managed by Howard Waldorf. This Chamber believes in lending all-out assistance to new enterprises as well as established aviation. This belief has been backed by action.

In the case of unscheduled airlines founded mainly by war veterans, it has—

1—Carried a fight to Washington that secured hangar space in war-leased facilities held by the military.

2—Interested successfully with federal housing authorities to secure priority for these veterans in securing housing.

3—Secured immediate telephone service for them in the face of a long priority waiting list.

4—Assisted them in securing field and down-town office space and in securing facilities in other cities.

5—Assisted them in locating and obtaining suitable surplus military aircraft for their services.

6—Assisted them in attracting skilled help, and aided those selected for employment in solving their housing and other individual problems.

7—Arranged illustrated newspaper stories of their first flights to attract public attention to these new enterprises.

8—Assisted them in various other problems, and has patronized their services frequently, in rotation with other airlines.

9—Counselled at length and advised more than 1000 returned military aviators and ground personnel seeking to establish themselves with unscheduled airlines or in other civil aviation activity.

This spirit of cooperation has already paid dividends to the community. Evidence is the more than 2000 jobs, representing a \$3,000,000 a year payroll, which has developed from a standing start on V-J Day. Furthermore, huge expenditures went only hangar construction.

Waldorf has been in aviation since 1917. He remembers the young pilots returned from World War I, equally ignorant of the first principles of

conducting a business aside from the knowledge of flying a plane." To quote the Pittsburgh Chamber: "Late William B. Kent, whose plan for the newsmen was printed on this page Oct. 31, Waldorf remembers the unimpressive promoters of a few decades past."

"It wasn't so many years ago that the Oakland Chamber of Commerce, and the writer, helped a number of struggling concerns, including Pacific Air Transport and Boeing Air Transport, solve the problems of their day and encouraged them in their ambitious programs. Today, these particular promoters mentioned, as you know, are winging over a great network under the banner of United Air Lines."

The record of Oakland's Chamber of Commerce in encouraging aviation development should be "must" reading for the rest of the country—especially Chambers of Commerce.

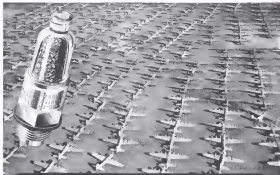
Easing Foreign Air Travel

Lack of system and shortage of customs space and personnel at international airports of entry delay every day thousands of passengers who are returning to air transport because it seems time.

Like so many growing pains of aviation, the customs boggy is tied up with another—the immigration problem. This vital process broke down on a recent afternoon when eleven trans-Atlantic transports arrived within three hours at the jammed LaGuardia terminal. Some 400 passengers and 77 crew members sat for four hours in their planes because only four immigration inspectors were on duty.

In desperation six airlines protested to the U. S. Immigration and Naturalization Service. As is so frequently the case with customs staffs, the number of immigration officials available had no relation whatever to airline schedules. Furthermore, immigration officials had added chaos to confusion by removing trained inspectors and replacing them with recruits.

Actually, of course, international aviation has developed faster than the most optimistic forecasts. It is still retarded by red tape which has lengthened over a hundred years of slow, surface transportation. Such examples as LaGuardia's recent immigration break-down emphasize the vital need for the simplification of regulations being sought so vigorously by the new Committee for World Travel, headed by L. Welch Pope and aided by a prominent group of associates. International travel restrictions and complexities are symbols of surface boundaries and another era, unrecognized by the new transportation of the air.
Romer H. Wood



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In this G-E altitude chamber at Schenectady, new types of electric aircraft equipment are subjected to tests under varying temperatures and pressures. The room can be made to simulate conditions at altitudes of 60,000 feet, 100 per cent humidity, or heated to 170 F, as well as cooled to 90 degrees below zero. Here a G-E engineer uses a voltmeter to test a magneto of the type that "sparked" the Thunderbolt and many other planes during the war.

Now this magneto, slightly modified, will be used on the Pratt & Whitney 2800C Double Wasp engines that will drive some of the newest commercial planes. Specified by the operators, these magnetos will soon make their appearance on the Douglas DC-6, Martin 202, and Convair 240. Various types of harness are available, including a new re-wirable harness especially suitable for commercial use.

As time goes on, more and more G-E equipment is being made available for commercial use—power systems, turbosuperchargers—even jet engines. G.E. also manufactures an extensive line of instruments for aircraft. Our engineers will be glad to discuss this equipment with you. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

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